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Retention and recidivism in Iowa's learning disabled students

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Retention and recidivism in Iowa's learning disabled students

by

Robert Eugene Johnson

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CHAPTER I. INTRODUCTION

This study was designed to examine the length of placement and the number of program changes for Learning Disabled (LD) students in LD programs. The research explored two main areas of concern: (1) the percentage of LD students who are removed from LD programs and then are placed back into those programs, and (2) the reasons why LD students remain in LD programs. This introduction includes the need for additional studies, the effectiveness of LD programs, and problems in identifying who is LD. There are many studies available which report on the effectiveness of particular techniques, but there is little information available on the reasons why students are kept in programs, how often the reasons change, or how often mainstreamed students must return to LD programs. This study is needed to take an "inside" look at LD students' records to determine what is happening to the students after they are placed in a program.

The study cites the results of several meta-analyses, but as Pillemer and Light have stated, "...synthesis may actually hinder the refinement of knowledge. Suppose that 100 studies are combined...how can one additional study or doctoral thesis compete with the combined results of 100?" (p. 191). The authors go on to answer that situational variations will often suggest productive directions for research (Pillemer and Light, 1980). This study approaches the LD student from a different direction, a longitudinal look at what is happening inside the resource room to see why so many students are still in LD programs.

As an example of how many LD students are in Iowa, Burgett has stated that special education enrollments in Iowa rose 22.53%, while general

public enrollments declined by 21.24% from the 1975-76 school year through the 1983-84 school year. The percentage of the total instructional budget devoted to special education increased from 8.48% to 14.70%, and regular education budgets increased 52.20% over the nine-year period. In fairness, however, it must be pointed out that there were other growth factors involved, for example, a massive child-find effort. Iowa's history for providing special education generally parallels that of the United States. Prior to 1975, permissible legislation existed for Iowa school districts to provide educational programs for the handicapped. Iowa's legislature mandated special education in 1974 with the passage of Senate File 1163, effective July 1, 1975, preceding the September 1, 1978, date set by Congress in P.L. 94-142. Included in SF 1163 was the abolishment of the county school system and the establishment of Iowa's intermediary agencies, called Area Education Agencies (AEAs). He goes on to state that alternative methods to deliver instructional services to mildly handicapped and "borderline" students require additional study and may lead to a more cost-effective funding mechanism (Burgett, 1985).

However, despite attempts to reduce the number of learning disabled students in Iowa, there are still relatively large numbers in some school districts (Burt with 9%). These numbers persist in spite of the original estimates of 2-3% of the total school population (McNutt, 1986). To get at reasons for the large numbers of students, several questions need to be answered. How long are students kept in the LD programs? Why are they kept in programs? How often do students return to LD programs? These are the answers sought in this study.

With regard to LD studies, certain requirements need to be met. For example, the Council for Learning Disabilities' (CLD) Research Committee has cited a growing concern among LD researchers about the lack of uniformity in the type of subjects used in LD research and then described in subsequent reports (Smith et al., 1984). In an analysis of 307 studies, the subject descriptions were brief and lacked precision. Two reasons were given for this lack of uniformity: (1) lack of standard identification criteria and (2) the heterogeneity of the LD population. There are at least three ways to resolve this problem. One way is to wait until a national standard for LD has been put into practice. A second way, which is equally unrealistic, is for all researchers to adopt and adhere to a standard. The third way simply adopts caveat emptor as its philosophy, but also describes the subjects as accurately as possible.

The CLD Research Committee goes on to recommend several items to be included in any research project involving LD students. They recommend the following demographic information (Smith, 1984):

1. Student IQ
2. Student motivation
3. Number of years in special programs
4. Type of program
5. Time spent daily in special programs
6. Background and description of experimenters
7. Provision for unavailable data
8. A table to include specific achievement information (e.g., math, reading, written language), scores and test information
9. SES and ethnicity.

The survey conducted for this dissertation included seven out of these nine recommendations. Students' motivation was beyond the scope of the project; SES and ethnicity studies are cited from the literature.

Also, as Keogh has stated, on a research level we need to provide a systematic way of organizing and describing the range of individual attributes which characterize learning disabled (LD) individuals (Keogh, 1986). She goes on to call for the development of a taxonomy of learning disabilities which would encompass multiple definitions.

Although it does not use the multiple definition approach, one of the few longitudinal studies conducted on the efficacy of LD services was completed by McKinney and Feagans in 1983 using 63 elementary LD students in three public schools. Their study focused on the academic progress of the children and changes in their adaptive classroom functioning as assessed by teacher ratings and observational measures. Reading comprehension actually showed a linear decline over the three years while math remained relatively stable. Although IQ influences achievement, the correlation for the LD group between IQ and achievement was so low that covariant analyses were not possible. It is often thought that maladaptive behavior grows out of academic failure, but this study suggested that such patterns already existed at the time of LD identification and persisted over time. Although the LD students' behavior improved over the three years, they still were below their peers. The results indicated that, at least within this sample, resource room help may not remediate LD children's academic and behavior problems over a three-year period. The authors also stated that more and longer-term follow-up studies of LD children are needed (McKinney and Feagans, 1984). There is a great quantity of existing data which can be extracted from students' current records to provide longitudinal information. This study

has used student records going back ten years to look at resource room effectiveness as measured by recidivism and retention.

However, the effectiveness of resource programming (resource rooms for mildly academically handicapped students) has been under study for years as the following studies illustrate.

A 1978 article summarized 17 studies of resource programs and their effects on academic achievement; while the results were not definitive, they did favor resource programs when compared with no help outside the regular classroom (Sindelar and Deno, 1978). In addition, one of the correlational tables reveals that for many of the studies the length of time in the program is "unknown" or "no information" or less than one year, and always less than three years.

Another meta-analysis of 50 research studies of special vs. regular class placement was completed in 1980. The results of existing research when integrated statistically demonstrated that special class placement is an inferior alternative to regular class placement in benefiting children removed from the mainstream. Out of 860 studies consulted, only 50 could meet the comparison criteria. The exception in results was that positive effects were found for two categories: LD and BD. Conflicting findings like these are common in the literature. Even in the Carlberg meta-analysis, there was no mention of length of program time or of recidivism (Carlberg and Kavale, 1980).

A nationwide survey of Directors of Special Education revealed that 3-5% of the school population is referred; 92% of the referred students

are evaluated, and 73% of those are placed in special education classes (Algozzine et al., 1981).

There are other studies which suggest that as many as 40% of the students being served in LD resource rooms are actually just underachievers. One such study compared a group of 50 fourth grade children who had been identified LD by their school districts with 49 fourth grade children from the same districts who had not been identified as LD but who scored below the 25th percentile of the Iowa Tests of Basic Skills. Also, the LD group was restricted to those identified in the last six months to minimize the effects of intervention. An average of 96% of the scores were within a common range, and many subtest scores were identical (Ysseldike and Algozzine, 1982).

Yet another study compared 35 LD males staffed into self-contained programs with 50 LD students staffed into resource programs. Findings from the study indicated little difference in the characteristics of the two groups. The study did indicate that the basic test battery criteria approved for use in the State of Florida does not differentiate between those students in self-contained vs. resource rooms (Olson and Midgett, 1984). In that study the psychologists used the WISC-R for intelligence data, and the WISC-R was the most commonly used IQ test in this dissertation also.

The use of tests to help determine who is LD and who is not leads to a question. Where did LD come from? The LD category is usually perceived as emerging on the basis of medical research beginning in the 1800s, but more recent knowledge has been accumulated by psychologists, neurologists,

and physicians studying children with learning problems. They see LD as essentially a medical problem residing within the child. Learning Disabilities was officially founded with the advent of the Association for Children with Learning Disabilities in 1963. Identified students were overwhelmingly white and middle class during the first ten years, but since the early 1970s, there has been a shift in those who are identified as LD. After 1972, blacks lost some overrepresentation in mentally retarded (MR) classes, but they rapidly gained representation in LD classes (Sleeter, 1986).

Who Is Learning Disabled?

The National Joint Committee on Learning Disabilities issued a position paper in 1981 citing the following definition (NJCLD, 1981):

> Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Even though a learning disability may occur comcomitantly with other handicapping conditions (e.g., sensory impairment, mental retardation, social and emotional disturbance) or environmental influences (e.g., cultural differences, insufficient/inappropriate instruction, psychogenic factors), it is not the direct result of those conditions or influences.

Other authors offer definitions also. LD students generally demonstrate an inability to achieve certain standards of literacy, and as these standards escalate in a technological society, more students are labeled LD. They are the most mildly educationally handicapped group, and they are the largest. Much controversy has always existed regarding just what constitutes a learning disability (Reynolds, 1984-1985).

Commonly accepted definitions of LD require the presence of a significant discrepancy between a child's potential and his/her achievement. However, when eight commonly used formulas were applied to the IQ and achievement scores of 92 potentially LD youngsters, extremely variable results were found. Over 46% were not LD by any formula. The range was from nineteen on one formula to seven children on all eight formulas (Forness et al., 1983).

Moving past the issues of which formula is best, this dissertation explored the possibility that LD students are kept in the programs after the original deficit area test scores have improved, leading to larger numbers of students in special programs. Could these students be served in the regular classroom with the added advantages of peer relationships, and providing assistance for the non-identified underachiever?

This study is not concerned with finding the best definitions because, as Blankenship put it, "Ten professional educators using the term mainstreaming will generally mean ten different things by it." There are no standard intelligence test cut-off scores for being labeled mentally retarded, and upper limits have varied between 70 and 85 in different school districts. Concern about the separation of resource programs from regular education has led to an idea of a more normal special education service. Originally LD was embraced as a concept of a needs continuum, rather than a specific category (Blankenship, 1981).

Summary

The introduction has included information from 74 studies, including the two meta-analyses, in demonstrating the lack of hard data to support

the effectiveness of special programs for LD students. Relatively large numbers of LD students remain in programs. Some concern has been expressed regarding the lack of uniformity in LD research. However, research is needed to determine why students are kept in special programs, and how often they return to special programs. LD is an imprecise category, and one which is controversial. Research is needed to take a longitudinal look at the reasons why students are kept in these programs.

Delimitations of the Study

The research for this study of LD was conducted within the following six counties in northern Iowa: Cerro Gordo, Clay, Hancock, Kossuth, Palo Alto, and Pocahontas. The area is predominantly rural and white with small towns and small schools. The two largest towns had populations of 30,144 and 11,726, while the smallest two towns were 418 and 394. The population is very stable with small numbers of racial minorities. Since the students tend to be a relatively homogeneous group, the results of this study may not apply to urban or racially mixed schools.

Research Questions

This study seeks to examine two main components for determining program effectiveness: (1) to measure what proportion of LD students is being mainstreamed out of a special program, failing to function independently, and then being returned to a special program, and (2) to identify the reasons why students are kept in LD programs. The study examines such factors as deficit area, age at program entry, district size, minutes per day, dropout rates, and gender. To examine these main

ideas, the study will attempt to provide answers to the following questions:

1. What is the rate of recidivism (students who leave an LD program and then return)?
2. Have upper grade level students been in LD programs longer than lower grade level students?
3. Is there a difference in the length of time boys and girls remain in LD programs?
4. Is there a difference in the number of deficit area changes between boys and girls?
5. Is there a difference in the school dropout rate between LD students and the rest of the school population?
6. Do students who enter LD programs at younger ages stay in those LD programs longer than students who enter later?

Operational Hypotheses

1. Students in higher grade levels have been in the LD programs a significantly longer time than students in lower grade levels. This would support the theory that many students are not staffed out of the programs, but are retained for several years.

2. Students who start LD programs at younger ages remain in the programs longer than those who start later. This would support the theory that students tend to remain in programs.

3. More than one in ten students in the LD program have a deficit change after placement. This would support the theory that students are retained in programs rather than being staffed out.

4. There is no difference between male and female students in number of years in LD programs, number of deficit area changes, nor minutes per day being served. This would support the theory that gender is not a factor in retention and recidivism.

5. The dropout rate for students is higher than that of the total school population.

6. More than one in ten students who are staffed out of LD programs are staffed back in again. This is a measure of success for those students who are mainstreamed.

Definition of Terms

AEA: Area education agency.

At-risk: Those children who are likely to experience academic or behavioral problems.

BD: Behaviorally disabled (average IQ or above).

CBA: Curriculum-based assessment--measurement procedures are matched with the students' program objectives.

Deficit area: One or more of seven academic areas for which a student is placed in a special program.

EMR: Educable mentally retarded.

ES: Effect size, + 1.00 indicates a superiority of one SD for the treatment group. A 50th percentile subject would be expected to rise to the 84th percentile after treatment (the mean difference between experimental and comparison groups divided by the standard deviation of the comparison group).

LD: Learning disabled (average IQ or above).

LEA: Local education agency.

Mainstream: The act of placing an LD student in regular classes.

MD: Mentally disabled (usually one or more SD below average IQ).

Recidivism: The act of staffing a student back into a special program after being staffed out.

Resource Room: A special program where LD students spend from thirty minutes to two hours daily for special help.

Retention: Keeping a student in a special program after the original deficit area has been dropped.

SES: Socio-economic status.

SEA: State education agency.

Organization of the Study

This report is organized into five chapters. The first chapter is an introduction to the topic, presenting background information, some historical perspective, the need for this study, and the purposes of this study. The second chapter is a survey of related literature including sections on the efficacy of learning disabilities resource rooms, mainstreaming procedures, identification controversies, and the prevalence of LD. Methodology and procedures are discussed in Chapter III. Chapter IV contains the descriptive data and the statistical tests of the six hypotheses. Conclusions are presented in Chapter V along with a discussion of the findings and limitations of the study. Recommendations are also provided in Chapter V.

CHAPTER II. REVIEW OF THE LITERATURE

The survey of literature is organized into eight parts, each with a summary. The first part reports the prevalence of learning disabilities, both nationally and for the State of Iowa. The second part explores extensively the efficacy of special education. The third part cites the problem of retention in special education programs, while part four reports on mainstreaming. Part five reflects the problem of identification in learning disabilities. Parts six and seven report on LD school dropouts and related issues in special education. The eighth part is a composite summary of the literature.

Prevalence

One of the first questions to ask concerning a study of LD is just how many LD students there are. This section draws upon national and state statistics to establish not only the prevalence, but also the past and present trends in the numbers of LD students.

The large numbers of LD students, or at least more than originally planned, was anticipated during the formulation of P.L. 94-142. The law addresses a potential of "overcounting" children as handicapped in order to generate the largest amount of funding. There is a requirement that the total number of school-age children should not be greater than that number which equals 12% of the total school-age population of the state between the ages of 5 and 17 inclusive. This limitation does not apply to children ages birth through 5, nor 18 through 21 years of age. However, the limitation applies to the federal monies only and does not in any way

restrict the number of students identified as handicapped by the states and local education agencies. States may count students between the ages of 3 and 21 inclusive for federal funding (Ballard et al., 1987).

This federal funding has required stringent counting by the states. The child count information contained in the Eighth Annual Report to Congress (United States Department of Education, 1986) reflects the December 1, 1984 head count. Possibly due to a concern over the rise in numbers of special education students, beginning in the school year 1984-85, states are required to report child-count information by new age groupings: 3-5, 6-11, 12-17, and 18-21. Previously, the ages 6-17 had been merged. The number of students in special education in the United States is now 4,363,031, which is up from 4,341, 399 the previous year. This .05 percent increase is the smallest increase to date and just one-sixth of the peak 1980-81 increase.

In fact, 16 states have reported a decline in the total number of handicapped children. Fewer children are being identified as LD, and this is cited as the primary reason for a slower increase in the numbers of handicapped children in the other 34 states. The total handicapped in the United States in 1976-77 was 3,708,588, and in 1984-85 it was 4,363,031. Of these figures, LD accounted for 797,213 and 1,839,292 respectively, a growth of 131 percent.

This is why LD children now account for 42.2% of the ages 3-21 handicapped population. However, growth has slowed significantly in the last two years, which suggests the category may have stabilized. These increases in the numbers of students have led to increases in the numbers

of special education teachers. States report that the number of special education teachers employed increased between 1982-83 and 1983-84 from 241,079 to 247,791, or a 2.7% increase compared with a 10% increase in the number of students. The number of special education teachers has risen annually since 1976-77 at a rate twice that of the increase in students, 37.8% vs. 17.1%. For personnel other than teachers, the rate has been even greater. However, these trends may reflect progress in providing services in areas where none was available.

Another state, New York, offers an interesting experience. During the 1981-82 school year, the state modified its handicapping conditions so that students with neurological impairments would be identified as LD, rather than "other health impaired." This single act reduced the number of other health impaired from 29,396 in 1982-83 to 3,269 the following year. New numbers for LD were not given, but the fluid nature of special education can clearly be seen (Eighth Annual Report).

Although the numbers do change rapidly, as in the case of New York, one researcher was concerned because LD is not only the single largest category of special education services, but it is also the fastest growing category. She stated that it is clearly an important component of American education, yet continues to be characterized by inconsistency and controversy (Keogh, 1986). The inconsistency and controversy are still present, but the growth rate appears to have slowed dramatically.

Another question is frequently asked concerning the past growth in numbers of LD students. Is the LD identification process related to socio-economic status (SES)? Keogh states that there is extensive

literature documenting relationships between SES and problems in development. Children from disadvantaged homes have been shown to have a higher probability of developmental, social, and educational problems than their peers. However, Keogh feels that the exclusionary criteria in the definition of LD may lead to under-identification of LD students within this group (Keogh, 1986). The Kansas IRLD findings of no difference between LD and low achievers do not disagree with Keogh, since her study, like others, compares LD with their total peer group.

Regardless of SES, Lerner (1985) places the prevalence range as high as 30% of the school population depending on the criteria. LD does comprise over 4% of the total school population at the national level. About 72% are boys and 28% are girls, or a ratio of about two and one-half to one. The number of LD has increased from 1.89% in 1977-1978 to 4.40% in 1982-83 (Lerner, 1985). Her ratio of male to female is very similar to that found in Chapters III and IV of this study, 67% male vs. 33% female.

The total number of handicapped children in the United States has increased only slightly over the past several years, to approximately 4,377,254 in the 1984-85 school year, but there has been a rapid increase until recently in the number of LD. Because of increasing funds, child-find efforts, and expanding availability of services, the count of LD increased by 668,665 students between 1976 and 1985. During this same period, however, the numbers of mildly handicapped, particularly LD, expanded by over 1,000,000 students. This group has grown from a population of 797,213 in 1976 to a 1985 count of 1,845,928 (Hagarty and Abramson, 1987).

It is difficult to say that the original estimate of 2-3% LD among the total school population is correct, and that any substantial departure from that estimate is caused by over-identification. Great Britain passed the Education Act of 1976 which mandates the rights of all children to an education regardless of their handicaps. Subsequent to this law was the publication in May 1978 of a report by a committee established by Parliament to study special education. The report is titled "Special Educational Needs" and is called the Warnock report for its chairperson, Mrs. H. M. Warnock. Based on the findings of prevalence studies done by the committee, up to one in five children will at some time in their school career require some form of special education (Kauffman and Hallahan, 1981).

In a 1985-86 survey, 28 of 49 (57%) of the states included achievement criteria in their guidelines. The U.S. Department of Education found a rapid increase in the number of LD children between the years 1976 to 1984, and another study found a 3% annual increase from 1978 to 1982. The numbers have continued to rise until recently, and the proportion is growing. In 1978, LD students accounted for 29% of the handicapped, but they accounted for 40% in 1982 (Frankenberger and Harper, 1987).

Another 1985 study of prevalence found that across the United States, the data showed a range from 2.3% to 8.9% of the school-aged population. The median was 4.3% and the mean was 4.5% (McNutt, 1986). This same report indicated that resource rooms are the most commonly used delivery system, used by 93.6% of the state education agencies (SEAs). In these states the percentage of LD students being served in resource rooms ranged

from 52% to 99.9% with a mean of 81.4%. Self-contained rooms were the most frequently noted alternative.

Related to prevalence is the concept that if the federal government were to reinstate the original cap of 2% of the total student population as sought by P.L. 94-142, none of the states would meet this requirement. Even if the 2-3% often used by professionals were used, only 14.9% of the states would meet the requirement (McNutt, 1986).

Retention, as defined in this study, does not mean that a student is held back in a grade level and not promoted. Rather, it means that a student is held in a resource program for additional help after his original deficit area is dropped. There is a similarity in this concept and that of regular education's detention. After World War II, and with the beginning of the baby boom, retention in grade lost favor, and by 1960 social promotion was a fact, if not a policy, in most school districts (Chandler, 1984). Chandler said that he has heard recently from administrators, other policy makers, and researchers who state that most U.S. schools are going to begin retaining more students. He also feels that even if there were good research to the contrary, schools would still retain more students, since few administrators read and believe in educational research. Similarly, lacking any supporting research data for resource room efficacy, schools may be holding LD students in the programs beyond their original purposes.

Summary

There are some interesting shifts occurring in the prevalence of learning disabled students. The rate of increase has slowed dramatically

the last two years. The inconsistencies in criteria for identifying LD students have led to wide ranges in the estimates. Some professionals place the prevalence as high as 30%, while the federal laws seem to indicate a 2-3% range. Some researchers feel there is clearly an indication that LD is associated with SES, and that would account for some variations in numbers. National statistics now indicate that the number of LD is leveling, which might be as a result of stabilizing criteria, or a declining student population, or unknown factors.

Efficacy

The concerns of retention and recidivism which are addressed in this study deal with the efficacy of LD programs. Since the majority of these special programs are resource rooms, the study is asking, in effect, what is happening to the students once they are placed in the resource room.

Some educators, both in Iowa and internationally, are beginning to question the efficacy of special education programs which serve relatively small numbers of students. For example, special education is recent in Britain as well as elsewhere. Educating pupils with special needs in ordinary schools is a concern of education systems throughout the world. Eastern countries have predominantly segregated special education, but with a goal of ultimate social integration. In Third World countries, there is very little provision for special education, and what is done is usually accomplished by private and religious organizations. Recent years have seen integration legislation in countries such as Norway, Sweden, the United States, Italy, the United Kingdom, Denmark, and France (Hegarty et al., 1981).

Data reveal that in Iowa the student/teacher ratio is 15/1 for learning disabilities resource rooms (Eighth Annual Report). Educators are asking if this is the most cost effective way to help these students. Some researchers contend that other delivery systems such as Teacher Assistance Teams (TAT) are more efficient and more effective (Chalfant, Pysh, and Moultrie, 1979). It is worth noting that there are no data provided to support the efficacy of the TAT in Chalfant's article.

Efficacy is addressed in another study in which a team of regular and special educators staffed an intermediary setting for LD students and low achieving students. Nearly 500 students were used in the experimental group and were matched with a similar number. Results indicated that ninth to twelfth grade LD students did not demonstrate academic gains (Waldron, 1985).

From these studies it appears that there is little evidence that programs of special education do much to improve educational performance, but LD programs presume that difficulties in learning can often be reversed with special instruction. Evidence that learning disabilities exist as a distinct category is questionable, and it is hard to show that special teaching improves student performance. Yet, at least one author argues against the idea that LD programs often serve only as a rhetorical device to convince the public that schools are committed to equality of educational opportunity, and he insists that there exist serious programs to boost the performance of slow learners (Milofsky, 1986).

The large amount of literature on remedial procedures with mildly handicapped children contains many convincing demonstrations that specific instructional techniques can be effective in accomplishing narrowly defined goals. But when the evaluation shifts to more complex programs designed to achieve a more complete remediation of academic skills deficits, the results have been discouraging (Tindal, 1985). There are a number of problems with trying to evaluate special education. Just labeling a program special doesn't make it special. The only real consistency found in LD is the type of scheduling, the typical resource room model. In most of the literature, there is only a general and vague reference to the type of "treatment" offered.

It is hoped that this study will contribute information which will assist educators in making an objective determination concerning the efficacy of education for LD students in Iowa. Some educators feel that the current classification systems for students with special needs are educationally ineffective and burden schools with too much administrative, teaching, and financial costs (Wang et al., 1986).

However, there are a number of vested interests who favor maintaining the status quo. Some smaller school districts gain a significant amount of added revenues through the weighted reimbursement for LD students. LD students in Iowa generate a minimum of an additional .7 of the revenue base (.7 x approximately $2,500) which yields approximately an extra $1,750 per student identified. Sample per pupil costs for each of the 11 districts used in this study are as follows (Iowa Department of Education, 1986a):

Table 1. District per pupil costs

District	1985-86	1986-87
Algona	$2440	$2533
Armstrong	2480	2573
Britt	2410	2503
Burt	2454	2547
Luverne	2606	2699
Mason City	2495	2588
Pocohontas	2424	2517
Sentral	2497	2590
Spencer	2410	2503
Titonka	2458	2551
West Bend	2633	2726
AVERAGE	2482	2575
LD funding (.7)	$1737	$1802

It is evident from these figures that if a school district identifies a student as LD, a significant amount of new money will be available for instruction. Conversely, if the student is not LD, the district must take funds away from other programs in order to provide special categorical programming.

Categorization is:

> ...deeply entrenched in the social commitments of categorically defined special-interest advocacy groups; in the structure of health, education, and welfare programs at direct service levels; in the staffing of teacher training institutions; in other professional training programs; and in general public thinking (Deno, 1978).

Can we demonstrate the efficacy of intervention programs? There is an assumption that the intervention of choice is appropriate and effective for most LD students. However, there is little evidence to support the

effectiveness of many intervention programs, and there is almost no solid evidence to allow a comparative test among programs (Keogh, 1986).

Even professional organizations such as the Council for Learning Disabilities (CLD) are showing concern for the increased numbers of LD students. The Board of Trustees for the CLD issued a position statement:

> The major reason for excessive incidence rates in learning disabilities programs is the inclusion of students whose low achievement or underachievement reflects factors other than a learning disability... (Brown et al., 1986).

Moreover, there is some evidence to suggest that even the certification of categorical teachers does not have a significant effect on students. In a study done in a large urban school district, the subjects were 125 randomly selected special education pupils instructed by 24 EMR (educable mentally retarded) or LD licensed teachers. The numbers of subjects were split 78 LD and 47 EMR. LD and EMR certified teachers were randomly selected from a pool, and controlled for difference in experience. The results indicated that LD and EMR students, when taught by teachers with certification matching child label, did not make significantly greater gains than LD and EMR children instructed by teachers with licenses not matching pupil label (Marston, 1987).

In addition, Morsink, Thomas, and Davis (in press) did a review of literature and found no data to support the idea that special teaching methods are differentially effective for students identified as EMR, LD, and ED. They recommend noncategorized programs for these students (Morsink et al., in press).

Other researchers have questioned the methodology of special education programs. Reschly and Phye (1979) state that no one method of instruction is universally effective, yet we have continued to assign children to specific instructional interventions with little or no empirical evidence to support the idea that these students will somehow benefit from the intervention. He states that programs for LD students were established prior to the presence of empirical evidence of ways to teach such children (Reschly and Phye, 1979).

In addition, Zigmond and Miller (1986) feel that the perceptual deficits/perceptual training approach is an example of an overzealous curriculum which says, in effect, if the students can't do it, teach it. They also state that in spite of the usefulness of some assessment data, many teachers plan and execute special education programs on the basis of subjective impressions of students or on the basis of available curriculum materials. The authors state that these findings may help explain why so many efficacy studies of special education programs have so often failed to substantiate a significant advantage of special education services (Zigmond and Miller, 1986).

Yet another study on the efficacy of special education, this time with early intervention, deals with an analysis of over 300 previous studies (White, 1985-86). Twenty-six states now mandate some type of special education services below age five, and there is talk in Congress of extending the mandate of P.L. 94-142 down to birth. However, there are also critics. The author of this analysis collected over 2,500 documents describing more than 300 efficacy studies; the goal was to critically

examine all experimental interventions that began before 66 months of age with handicapped, disadvantaged, and at-risk children. It is interesting to note that the author cited previous reviews as the best source of identifying studies. Less than 15% of the studies included in this analysis were located through the computer-assisted bibliographic search which examined eight data bases and over 200 terms and combinations of terms. The first discovery was that most of the previous studies dealt with disadvantaged children.

In contrast, for handicapped children, there are no follow-up data collected more than 12 months after the intervention was completed from studies of high methodologic quality. The best estimate is about .4 of a standard deviation. However, this estimate is based on only 20 effect sizes from 11 different studies. Also, in spite of the popularity of the idea that "earlier is better," these analyses provide only meager support, and very few studies have addressed the issue. White concludes that there is simply not enough information to be confident about the long-term impact of early intervention with handicapped children. Only 21% of the effect sizes included in the analyses came from "blind" collectors (White, 1985-86).

These results are in direct contrast to Will (1986), who stated that research shows there is a positive correlation between the age at which intervention occurs and the level of success which can be expected as a result of the intervention. In an adaptation of her remarks to the Wingspread Conference on "The Education of Special Needs Students: Research Findings and Implications for Policy and Practice," held in

Racine, Wisconsin in December 1985, she stated that there is a presumption that students with special learning problems cannot be effectively taught in regular education programs. She also cited an inadequacy of data in measuring educational outcomes (Will, 1986).

Other authors, such as Milofsky, seem to take a more sociological, if not cynical, perspective toward the purpose of special education programs. He states that special education programs grow in response to specific social pressures, and once these pressures subside, support collapses and programs shrink (Milofsky, 1986).

Still another complication exists because when P.L. 94-142 was passed in 1975, it mandated the team approach to special education. Since then the interdisciplinary special education team approach has been criticized on the basis of its cost effectiveness. A survey was conducted nationally to obtain information on the current status of team training in special education teacher training programs. Of the 360 responding institutions, 48% did not offer team training (Courtnage and Smith-Davis, 1987).

Although the team approach is time consuming, most researchers are concerned more with results, as when Bickel took a "review of reviews" approach to the literature on effective schools and special education, further limiting the reviews to the last five years. The author simply states that reviews and meta-analyses of what has come to be designated as special education "efficacy studies" have consistently reported little or no effects for students placed in special education settings (Bickel and Bickel, 1986).

Still another study investigated the effectiveness of self-contained programs for LD students. Twenty-eight students who were identified LD served as subjects in an urban school system serving a K-12 population of 65,000 students. Students were randomly selected, and the variable measured was the change in performance (posttest minus pretest) on the WISC (Wechsler Intelligence Scale for Children), the WRAT (Wide Range Achievement Test), and the PPVT (Peabody Picture Vocabulary Test). Students in self-contained classes had significantly higher math scores, but no effect on the WRAT reading and PPVT scores. However, the most surprising findings were significant differences in IQ scores; the subjects regressed in intellectual functioning. It appears the classes may have actually contributed to a lowering of IQ scores (Beck et al., 1981).

Meta-analyses are another way of getting at the efficacy of special education programs, and yet they too are limited in their interpretations. Kavale and Glass cite two of the limitations. First, the tally method is often used to determine how many studies were favorable and how many were not. However, this method disregards sample size. Secondly, the magnitude of the experimental relationship is ignored. Another concern is that no matter how ambitious the efforts to find all the empirical research in a given area, the proliferation of literature is likely to frustrate the search. Further, the authors state that the interpretation of ES (effect size) should be made in context. An ES of 2.00 may be "poor," while an ES of .2 may be "good." They conclude that meta-analysis is only a conditional rendering of issues in special education (Kavale and Glass, 1982).

Another example of this approach is the Carlberg and Kavale meta-analysis cited in the introduction which included experiments comparing special class students with those who might also have been placed in special classes, but for experimental purposes were placed in regular classes. In this case the special class was treated as the experimental group, which means a positive ES favors the special class. The 50 studies produced 322 ES measurements and at the highest level of aggregation, yielded an ES of -.12. This represented 27,000 students who averaged 11 years of age with a mean IQ of 74, and who remained in the special class a little less than two years. The effects of two years of class placement were to reduce the relative standing of the average special class pupil by 5 percentile ranks. The pupils retained in the regular classes outscored those in special programs by about one-tenth of a standard deviation. The surprise finding was that special class placement was worst for lower IQ levels. The average LD pupil in a special class was better off than 61% of those placed in a regular class (Carlberg and Kavale, 1980).

However, despite these positive findings, other researchers question their validity. Writing in an earlier publication, Glass felt strongly that most pupils who are labeled handicapped in our schools are diagnosed so arbitrarily that most questions of treatment efficacy are irrelevant (Glass, 1983).

Morsink and her colleagues summarized the results of special education teacher effectiveness research recently. Findings suggest that there are discrepancies between best practice and actual practice in

special education classrooms. There is also an inconsistency in the reports on differences between teacher behavior toward handicapped students in regular classes and in special classes. The authors state that there are some differences between special education teaching practices in the mid-80s and those in the early 1970s, when most resource room instruction was to small groups with similar skill deficits. The recent trend toward serving large numbers of exceptional students has resulted in larger class size. However, the authors do not offer data to support this, nor their contention that individualized instruction has decreased (Morsink et al., 1986).

However, some researchers have cited evidence of the need for the total teaching structure provided by a full day's work in a special class for learning disabilities. Sabatino and others conducted a study to evaluate the use of a resource room as an alternative to special class placement. They wanted to determine if LD students achieved at a significantly higher level when placed in a self-contained special class. They also wanted to learn if there was a difference in academic achievement between those who attended a resource room for one hour every day as opposed to one-half hour twice a week.

The subjects in the study were 114 out of 185 children with LD in a single-county school system. All of the subjects were posttested in the spring on the same standardized tests with which they had been pretested in the fall. The results showed that the children with LD were able to do better academically in several types of classroom structures other than the regular class. The authors concluded that this study supported using

resource rooms for children with LD. They also stated that children with LD seem to not profit from repeated exposure to regular classes, and that some children profited as well from a one-half hour twice-a-week prescriptive program as others did from a self-contained special class (Sabatino et al., 1971).

Even in England, two researchers have stated that there are so many arguments against special programs that if they did not exist, we would find it difficult to make an argument for their creation. They go on to state that England can learn from the American experience in the use of integration, or mainstreaming, as we call it. They feel that it is in the secondary schools where the real problems exist because the primary schools do not have such large classes, complicated timetables, specialist subjects, specialist teachers, and the pressure of exams (Ainscrow and Tweddle, 1979).

Still, both secondary schools and elementary schools can use some of the research concerning efficacy. For example, the Fuchs did a meta-analysis using 18 controlled studies to determine how measuring student progress toward long-term vs. short-term goals affects achievement outcomes. This project also dealt directly with the controversy over using norm-referenced tests vs. using curriculum-based assessment (CBA) strategies. Research indicates that such ongoing CBA represents an effective alternative approach to program development and evaluation. In terms of the normal standard curve, a mean of 100, and an SD of 15, the use of CBA can be expected to raise the typical achievement outcome score from 100.00 to 110.50, or from the 50th to the 76th percentile. The

search included 29 studies, but 11 were eliminated because of insufficient data for calculating effect size. It was interesting to note that no significant associations were found between duration of treatment and measurement of outcome. The authors also state that teachers may prefer short-term goal measurement because it is easier to understand, but CBA assessment of long-term goals may represent a necessary supplementary strategy (Fuchs and Fuchs, 1986).

Research in the area of CBA strategies is ongoing, including an experiment in Iowa titled Project RE-AIM (Relevant Educational Assessment and Intervention Model) sponsored by the Federal Office of Special Education and Rehabilitation Services. The RE-AIM training modules include (1) Behavioral Consultation, (2) Curriculum-Based Assessment, and (3) Referral Question-Consultative Decision Making (Iowa Department of Education Pamphlet 129).

This concern for efficacy is not new. As far back as 1978, Sindelar and Deno were concerned about weaknesses in efficacy research. They listed five weaknesses. First, sampling is seldom a randomized process. A second shortcoming is inadequate matching of subjects across conditions. Thirdly, different placement histories make research results impossible to interpret. The fourth common weakness is the use of inadequate measurement instruments. Finally, efficacy studies fail to control for teaching procedures and curricula. Interestingly, the Sindelar data were among the very few which cited duration of program as a criteria, but then usually for less than three years and often less than two years. In contrast to other studies, all the obtained results favored resource

programming. It has not been clearly established that resource programs are effective for all populations, but the most carefully designed studies to date have obtained the most favorable results (Sindelar and Deno, 1978).

Summary

Finding the most effective way to teach students with special needs is an international problem. Studies in the United States have failed to show consistently positive results of special programs, except in those which cite a very narrow range of goals, often with a small sample. Despite these results, schools continue to identify students as LD, perhaps partly because it brings significant amounts of added revenue into the district. The long-term effects of special programs have not been demonstrated either; however, there are professionals who question the need for long-term results, if they can show short-term benefits. Even the larger meta-analyses fail to indicate positive results of special programs.

Retention

Students staffed into LD programs, usually resource room models, for low achievement in one area (for example, math) are then subsequently kept in the program after the math skills have improved. This process of retaining a student beyond the original skills deficit can be called retention. Other students are retained ostensibly to keep them from dropping out of school. Since 1976-77, the number of students identified

as LD has increased 119% (Edgar and Hayden, 1985), and more recent data show an increase of 131% (Eighth Annual Report).

The idea of retention, meaning to keep students in a special program, and not defined as repeating a grade level, is difficult to find in the literature. It seems that little attention has been given as to why we retain students in learning disability resource rooms. Even the report, A Nation at Risk, appears to have been cautious enough not to mention retention, except to mean keeping students in school (Chandler, 1984).

Although a report by Carstens uses the term retention in the traditional sense of repeating a grade level, its findings show a parallel to the experience of LD students. She cites other studies showing post-retention achievement scores actually drop in some cases and do not approach grade-norm achievement in most others. Yet this practice of retention persists as does the practice of keeping students in learning disability resource programs. The author specifically addresses the exceptional child. Given the additional learning time required, it is not surprising that resource help and retention may be equally ineffective in reducing the achievement gap for these children. Both alternatives fail to address the alterations in instructional techniques and the increased time that these students often require. She predicts that teachers who initially advocate retention would require powerful evidence to the contrary to change their views (Carstens, 1985). The same can probably be said of learning disability resource room teachers.

Summary

The study of program retention in special education is remarkably rare. Even the national reports such as A Nation at Risk and High School treat special education and retention lightly if at all. The probable reason for this omission is the separation of special and regular education, a split which is encouraged by federal and state fiscal policies. It seems unusual that while there are many studies concerning the testing, identifying, labeling, and treatment of LD students, there are few if any which examine the reasons why students remain in the programs.

Mainstreaming

Mainstreaming refers to the process of placing a special education student in regular classes. If the student is 100% mainstreamed, no special help is programmed for that student. The recidivism being studied in this paper means that a student has been mainstreamed 100%, but has not been able to function independently and has subsequently returned to a special program.

While P.L. 94-142 does not mention the term "mainstreaming," it is sometimes referred to as the mainstreaming law since it requires that the handicapped be educated with regular class peers to the maximum extent appropriate (Lewis and Doorlag, 1983).

A major question needs to be asked, and is asked in this study. Are students who have been mainstreamed into the regular classroom failing, and being returned to the special education program (recidivism)?

There are not two discrete sets of instructional methods, one for regular students and another for special students. All students differ along continua of characteristics (Stainback and Stainback, 1984). The issue is not whether there are differences, but rather how we should address those differences. The pullout approach is based on the theory that poor school adjustment and performance are solely within the student rather than within the learning environment (Wang et al., 1986).

Other researchers have studied the results of mainstreaming. Wang and Baker attempted a meta-analysis on the efficacy of mainstreaming based on an original pool of 264 studies. However, only 11 studies met the required comparative criteria for the analysis. The analysis did indicate that an overall positive effect of mainstreaming was found, but of these only 3% were LD. Still, mainstreamed disabled students consistently outperformed non-mainstreamed students with comparable special education classifications. As the authors themselves pointed out, the inclusion of only 11 studies was a serious limitation. The authors chose 48 variables grouped under six major subheadings, but none of the six included retention or recidivism. The sample of 541 students was highly diverse in socio-economic status (SES), sex, race, and geographic location. The median number of students per study was 40, grades K-9; however, in 44% of the studies no information on grade levels was provided (Wang and Baker, 1985-86).

However, studies are being conducted which do show some promise in evaluating special education programs on a larger scale. Several measurements have been under investigation for use in evaluating the

effectiveness of special education. At present, four measurements are being developed (Tindal, 1985):

Slope of Improvement - The basis of the IEP is a measurement system that establishes a long-range goal, specifying a level of performance in the curriculum, and a short-term objective. Performance is plotted on a graph. Overall program effectiveness is illustrated by simply calculating the slope of improvement over all data points.

Goal Mastery - This is an additional measurement derived simply by the year-end outcome; the goal is mastered or not mastered.

Absolute Rate of Improvement - This is calculated on raw scores obtained in the fall, winter, and spring for any given academic area.

Relative Rate of Improvement - This is based on the comparative performance of a student in special education with a student in regular education, and can be defined as an improvement in relation to normative performance like the 25th/75th percentile. These methods hold some promise for better evaluations of mainstreaming.

Using another method, Wang has found that mainstreamed students made an average gain of a little more than one year in grade equivalent scores in math and reading, compared to six months for students with similar handicapping labels. There is substantial evidence that making educational provisions for individual differences in regular classroom settings does make a difference. She has used the Adaptive Learning Environments Model (ALEM), which essentially combines prescriptive or

direct instruction with goals and student characteristics (Wang and Walberg, 1985).

These studies are indicative of the interest in finding new approaches to teaching LD students. There are good reasons for changing the way we teach the mildly handicapped and the underachiever. The rapidity of change in today's society demands that students be taught how to analyze and react to their environment. More and more students are failing to learn through traditional methods, and this has resulted in a huge increase in the numbers of students in special programs. Over 10% of the students in public schools are eligible for special services, and another 10-20% are having learning difficulties (Will, 1986).

Interest in changing special education is not confined to researchers. At least two teacher organizations have expressed support for serving handicapped students in the regular classroom (mainstreaming). The National Education Association and the American Federation of Teachers have expressed support with some cautions (Ivarie, Hogue, and Brulle, 1984).

Ivarie conducted two experiments on mainstreaming to determine if regular teachers devoted any more time to LD students in their rooms than to regular students. One study was in a comprehensive high school located in a rural town in central Illinois, a four-year, public school with 850 students, 48 LD students, and 36 regular education teachers who had classes with LD students in them. The second experiment was in an elementary setting. The results of both experiments showed that teachers do not spend significantly more time assisting students labeled LD;

however, outside class time was not measured (Ivarie et al., 1984). The authors echoed Milofsky's sentiments when they stated that since the mainstreaming was a socio-legal mandate, it probably didn't matter what the research results indicated about its effectiveness.

The ALEM model was cited again in the study of mainstreaming strategies. Wang and Birch reported still more findings from investigations of an educational approach designed to accommodate special needs students in regular classes. The Adaptive Learning Environments Model (ALEM) has two components, one for academic performance and one for personal or social growth. Their investigation was conducted in 156 classrooms, K-3, spread across 10 school districts, with the 138 teachers included during the 1980-81 school year. However, of the special education students, only 33 were LD students. A significant positive relationship was found between program implementation and desired classroom processes (Wang and Birch, 1984b; Wang and Walberg, 1985).

Yet another comparison of full-time mainstreaming and a resource room approach was reported, again by Wang and Birch. The ALEM was used again for the school year 1980-81, this time in one of the schools where ALEM is used as a process for mainstreaming exceptional students. Data were collected on 179 students, 108 regular and exceptional students in ALEM classes, and 71 regular and exceptional children in non-ALEM classes. All were randomly assigned. By spring the ALEM students had made greater gains in reading (21 vs. 7) and nearly comparable gains in math (18 vs. 17). In spite of adverse student-teacher ratios, 5.5 to 1 vs. 15 to 1, the ALEM students did better (Wang, 1984a).

Despite these results, mainstreaming is not without its problems, including the social status of the LD students in the regular classroom. Perlmutter reported findings that while LD were generally less well liked by their peers, a subgroup was very well regarded. Most of the remaining LD students were rated neutral rather than disliked. Interestingly, special education teachers tended to view LD lower socially, but more academically competent, than did teachers in mainstreamed classrooms (Perlmutter et al., 1983). Could peer acceptance be a factor in recidivism?

Peer status was the focus of another researcher. Allgaier states that available research has shown that the elementary LD student experiences a relatively low level of acceptance in the regular classroom. She states that this is a serious concern since peer relations have been shown to be important to adequate social development and academic achievement. Her study involved 472 non-LD students and 32 LD students and found that a significant difference does exist between the mean social ratings. Also, results suggest peer acceptance does not improve with grade levels, and that LD females were rated lower than LD males (Allgaier, 1986).

In contrast, Slavin found contradictory results and has stated that several researchers have shown cooperative learning improves relationships between mainstreamed and non-mainstreamed students (Slavin, 1985).

Mainstreaming is not the only controversy in changing strategies for the LD student. Another study was conducted to determine the extent to which public school personnel support combining mentally retarded (MR) and

LD groups. The subjects chosen were 3,072 individuals in a southeastern state. A tally of the 1,164 responses showed that combining MR and LD categories does not have the support of the majority of personnel most affected by such a policy. The ratio was about 3.5 to 1 against the merger (Gaar and Plue, 1983).

From the studies cited, it appears that changes are going to be difficult to implement, and much solid research data will be needed for support. How many students fail in the mainstream? Recidivism is an element closely linked to mainstreaming and needs to be looked at closely if changes are imminent.

Recidivism is a factor in the work done by Zigmond and others to determine the causes of LD failures in the regular classes. Four studies were undertaken to explore the extent to which teacher attitudes and student behaviors contributed to the failure. Findings suggest that mainstream teachers recognize the low achievement of LD students but do very little that is different instructionally when these students are in their classes. The most common adjustment is simply to lower grading standards; in fact, most LD students received passing grades in most of their mainstream courses, except when attendance records were very poor.

The four studies were conducted in 12 urban high schools and include 132 returned questionnaires (31%). The results suggested that while many of the secondary teachers were tolerant of the LD integration, most of them would have preferred not to have the LD students there. It seems clear why the teachers did not feel it was any extra burden to have LD

students in their classes; they did very little that was different to accommodate these special students (Zigmond et al., 1985).

Another researcher who is concerned about the survival factor of children who are mainstreamed is Ritter, who conducted a two-year follow-up study of 20 elementary children. These children were diagnosed as LD and enrolled in an LD program (no specifics given) for one year, tested, and then mainstreamed for one year. The sample consisted of 15 males and five females with a mean age of 10 years and 4 months. Results indicated that learning gains in math and reading for both time periods were comparable, but spelling did not increase as much during the year of mainstreaming (Ritter, 1978). Again, the results are ambiguous and do not offer much support for special classes.

Summary

Although P.L. 94-142 does not mention mainstreaming, it is a basic component of special education. Does mainstreaming work? The literature suggests that there is no clear answer. Some researchers indicate there are not discrete methods of instruction for discrete groups of students so they all need to be taught together, with the teacher making allowances for individual differences; however, some other professionals prefer not to merge even the special categories into one classroom. Some studies even seem to indicate that mainstreamed students do better than their counterparts who are in special classes. One problem is the meaning of the term "mainstreaming." It is such a broad idea that it can mean anything along a spectrum of zero time in special classes, to perhaps two or more hours per day. This study will restrict the use of mainstreaming

to zero hours per day in a special class in order to determine if a student survives without help, or if the student is returned to the special class.

Identification

There is confusion and disagreement about what constitutes a learning disability. In a study to determine the degree of controversy or consensus at the state level, questionnaires were sent to each state education agency (SEA). Most states (61.2%) used the term learning disabilities (LD). Specific learning disabilities (SLD) was used by 30.6%, and 4.1% said they used them equally. These two terms collectively accounted for 95.9% of the SEAs. Although the federal definition does not refer to discrepancy between achievement and potential, this does appear in the federal criteria for LD. However, only 19.1% of the SEAs included this component in their definitions. Still, when it came to identification, a total of 46.3% of the SEAs had criteria that were identical or nearly identical to the federal criteria (McNutt, 1986).

There is also inconsistency in the procedures by which students are identified and staffed into special education programs, especially those students who are labeled LD, and there is no consistent criteria to determine when a student should be released from an LD program (Reynolds and Wang, 1983). Release time also deals directly with the issue of retention, which this paper explores in Chapters III and IV.

The categories used in special education are not reliable nor valid as indicators of particular programs; their use is expensive and

inefficient; and they cause much disjointedness in school programs (Reynolds, Wang, and Walberg, 1987).

There are also other factors which influence LD identification. In a study of 98 LD and educable mentally disturbed (EMD) students in Des Moines, Marion found that while LD/EMD placement was independent of ethnic origin, entry did depend on socio-economic status (Marion, 1979).

Besides SES, there are inconsistencies in definitions. The definition in the Federal Register states that there must be a severe discrepancy between intellectual ability and achievement, but it does not include specific diagnostic requirements or procedures. The responsibility for further defining and specifying procedures was left to the individual states (Frankenberger and Harper, 1987).

Frankenberger also reported that in a 1981-82 survey, three states (Iowa, Utah, and Wisconsin) required that children diagnosed as LD have IQ scores not less than one standard deviation below the mean. However, the 1985-86 survey showed that only one of these states (Wisconsin) continued to specify IQ cutoffs above the mentally retarded range. The trend is for more states to use an expectancy formula. Regression analysis showed an increase, as in Iowa, and states were more likely to use two or more methods. As an example, the Iowa guidelines stated that regression analysis was the most desirable method of quantifying a severe discrepancy. Iowa guidelines also added that it would not be possible to implement the procedure in all districts.

In 1981-82, only 33% of the states specified achievement criteria, but the 1985-86 survey showed that 57% required it. Several states also

specified expectancy formulas and regression analysis techniques. It appears that states have attempted to reduce the number of students labeled LD by adopting new criteria and reducing the level of subjective judgment. However, 43% of the states still do not include achievement in their state guidelines. It remains to be seen if these new guidelines will change the increasing prevalence of LD. Even though states' definitions of LD were quite consistent, there was a great deal of variability in their requirements and procedures for identifying LD students. A child identified as LD in one state might not meet the criteria in another state (Frankenberger and Harper, 1987).

In Iowa, descriptive data on a statewide sample of all children referred for psychological evaluation during one school year provide useful information. Seven of the 15 area education agencies (AEAs) providing special education services to the whole state were selected to represent the state in terms of geography and population. The number of cases in the sample ranged from 50 to 835 for a total of 2,002 cases. Typically, LD students had been identified in early fifth grade, and there were very small differences in IQs between the LD children and those with no handicaps. The LD group clearly had the largest IQ-achievement discrepancy on the WRAT. The authors felt that it is possible to separate children into categories. However, the authors then asked if it were advantageous to do so (Wilson, 1986).

Another of the studies conducted by the University of Kansas Institute for Research in Learning Disabilities (IRLD) included socio-economic status (SES). Two hundred and forty-six LD students

participated in the study, 229 low-achieving (LA) students, and 215 normally-achieving (NA) students. Major findings included the IQ level where LD students performed significantly more poorly at the high school level, but not at the junior high level. No significant differences in SES appeared between the LD and LA groups. The authors concluded that ability and achievement test scores, or written language alone, reliably differentiate LD and LA students, but very little else contributes to the discriminant process (Schumaker et al., 1981). These findings do not contradict other studies previously cited which show a difference in SES between LD groups and those in regular education.

Howe has called attention to this complexity of labeling. He states that over the past two decades special education has moved from the "two box" arrangement, special education or regular education, to the more complicated cascade of services which includes varieties of special classes. He feels that specialists tend to create environments which only specialists can manage, and suggests that handicapped children who remain too long and exclusively in specialized environments are often poorly prepared for a return to regular education and life (Howe, 1981). Again, his comment reflects directly on the issue of retention, which is explored in Chapters III and IV.

Bergquist also attempted to validate the placement of children in exceptional child programs when she identified 37 regular education high-risk candidates for exceptional programs and tested them on a monthly basis eight times during the school year. Any change in learning rate was charted. Of the 37 children, six were actually placed in exceptional

child settings (no specifics) during the school year. Five of the children had rates higher than learning rates prior to placement (Bergquist, 1982). This sample is too small and too generalized to draw any definite conclusions.

Moving to a larger perspective, Sapon-Shevin has examined the omission of special education from the national reports in terms of negative implications for low-achieving students and special students. The author is concerned that the omission of special education is an indication that the mislabeling of children will discourage teachers from seeking strategies in their classrooms to meet the needs of students who have learning difficulties. The report goes on to say that recent research in special education cites the need to look at inadequacies in regular education as a determining factor in students' failures to achieve (Sapon-Shevin, 1987).

Related to the problem of labeling and identification for eligibility of services, Reschly has stated that the present approach to providing support to special education students is clearly not working at an acceptable level. It is devoid of the accountability that child advocates seek, and the current emphasis on determining eligibility of services is costly and ineffective (Reschly, in press).

Gartner says even the states' funding formulas are designed to encourage the identification and program retention of learning disabled students. Instead of being weighted toward the least restrictive environment, the funding is a disincentive to less restrictions. In other

words, the greater the restriction, the greater the funding (Gartner, 1986).

Brown and Campione offer a fresh look at this issue of assessment in addressing learning disabilities. They predict revolutionary implications in two changes which are occurring. First there is a shift from implicating a general deficit in the child to a focus on assessing specific knowledge. Second, diagnoses that were general and static are becoming dynamic and domain specific. The authors state that definitions of LD have reflected the prevailing biases and assumptions of the dominant psychological theories of the day, and that the "leap to instruction" (p. 1060) is a perennial problem. What does all this mean? Rather than aim to improve memory performance in the hope of gaining general academic improvement, it is now thought prudent to teach the academic skills directly in the context of reading, arithmetic, and writing (Brown and Campione, 1986).

Assessment procedures have been suspect for at least 10 years, as can be seen from the comments of Arter and Jenkins in 1977. They state that it is not surprising that DD-PT (differential diagnosis-prescriptive teaching) has not improved academic achievement, since most ability assessment devices do not have adequate reliability and have suspect validity. They go on to say that specific abilities themselves have resisted training and remediation (Arter and Jenkins, 1977).

Summary

The previously cited studies serve to illustrate the confusion and disagreement which exist in the area of identifying and labeling students

as learning disabled. Even among the states, there is much disagreement and variation on criteria for eligibility of services. Some studies indicate that socio-economic status (SES) is a factor in identifying students as LD; other studies find no relationship. Again the funding formulas of states tend to encourage labeling by withholding money until a student is identified as LD. The entire scope of evaluation, testing, and placement is being challenged.

Dropouts

The school dropout factor needs to be considered as it relates to the students who are identified LD. The dropout rate should not be used to measure the success of a particular school nor the success of a program, since the motivation to drop out of school may be totally unrelated to school. At-risk students who have been identified and placed in special programs do constitute one group, however, toward which the schools have made a particular effort to keep in school, and it is this group of LD dropouts which will be examined by this paper.

While information on LD dropouts appears to be meager, the United States Office of Special Education and Rehabilitative Services is now collecting data on the rapid reduction in numbers of special education students beginning at age 17. Many of these students exit prior to graduation, and P.L. 98-199 requires data on the number who leave as well as the reason for their exit. Current data from 26 states show that the number of LD students seems to peak at age 13 and then decrease fairly uniformly through age 17 (Eighth Annual Report).

Rusch and Phelps report that of the approximately 300,000 youth who leave high school each year, most encounter severe unemployment and underemployment problems. The same authors cite a Harris poll (1985) conducted with a cross-section of 1,000 persons, age 16 and over, with handicaps. When these results were reported to the Senate Subcommittee on the Handicapped during the reauthorization hearing held on February 21, 1986, it was concluded that 67% of all Americans with handicaps, between the ages of 16 and 64, are not working (Rusch and Phelps, 1987). Apparently the poll did not differentiate between physical and mental handicaps, nor among any subgroups.

A national longitudinal study of a sample of 30,000 high school sophomores and seniors was started in 1980 and concluded that for those students with mild handicaps, whether in special education or not, the chances of completing high school were not good. The authors stated that 22% of the 1980 sophomores, compared to 12% of the non-handicapped students, had dropped out of school between their sophomore and senior years (Owing and Stocking, 1985).

In his work with studying the transition issues of special education students, Edgar has attempted to track all leavers (including dropouts) from 11 school districts in the State of Washington. He began to question what happens to special education students who graduate, or age out, of public schools. A trend that demanded his attention was the dropouts, or "elbowed outs," (p. 556) as he phrased it, from special education. These are students who leave the program before completing a program of study or reaching the maximum age for services. When he analyzed his initial data,

he discovered that there were significant numbers of students "missing" from the graduation lists. Were large numbers of students returning to regular education? As he states, "Data on dropouts are very difficult to obtain..." (p. 556) (Edgar, 1987).

One of the purposes of this paper is to determine the number of learning disabilities students who reenter the mainstream classes, that is 100% regular classes with no resource room help, and also how many of those are returned to special education programs.

National statistics indicate that about 29% of the students who enter the ninth grade do not graduate. Edgar's data suggest that the numbers are higher for special education students. His data include 10 school districts for the 1985 school year and 368 special education students who left schools during the 1984-85 school year. The special education group proved to be quite transient, and they were only able to contact 20% of the dropouts.

The data do show a major difference in dropout rates by subgroup. The dropout rate of the LD/BD group is 42% and all other students 16%. Edgar draws the conclusion that members of the LD/BD population, since they seem to be leaving, are not improving from the typical remedial academic approach of most secondary special education programs. His study indicates that of those students enrolled in secondary special education programs, over 30% drop out. He also concludes that the problems in blending special and regular elementary students are different from the problems encountered at the secondary level (Edgar, 1987).

Summary

There seems to be a large reduction nationally in the numbers of special education students around the age of 17. The mildly handicapped, which includes LD and BD, indicate the highest rates, probably because the more severely handicapped students (MD) are restricted by buses and self-contained classes. The LD dropout rate is nearly double the average for all students, and in some studies it is more than double. Again, the dropout rate is not a criterion on which to judge the success of a school or program, but it is a factor to examine as it relates to special education.

Issues

The broad topic of learning disabilities has generated much controversy among practitioners, researchers, and politicians. Some of this controversy revolves around the issues of categorization, efficacy, and mainstreaming. Cruickshank has lashed out at critics of the categorization of special education students, "...exceptional children do have unique learning characteristics..." (p. 117). He goes on to state that there has been during the 1970s a backlash toward all the support for special education, and he reiterates that for years special education teachers were told to teach to the disability (Cruickshank, 1986).

Similarly, in an Illinois state-wide survey, Arter and Jenkins found that 82% of special education teachers believed they could, and should, train weak abilities, and 99% thought that a child's modality strengths and weaknesses should be a major consideration when devising educational prescriptions. Also, 93% believed that their students had learned more

when they provided modified instruction to match modality strengths. Arter and Jenkins believe that not only are teachers adhering to an invalidated model, but because they believe it is working, they are not creatively searching for solutions (Arter and Jenkins, 1979).

In addition to these beliefs, there are other factors which impede change in special education, and one of these factors is teacher attitudes toward mainstreaming. Ysseldike and Algozzine(1982) states that recent studies suggest teacher attitudes and practices toward handicapped children are unfavorable. According to a survey by the National Education Association, 95% of all classroom teachers believed that students' academic and social difficulties were caused by (1) home and family problems and (2) deficits and disabilities within the student (Ysseldike and Algozzine, 1982).

Perhaps the major cause of this controversy is the question about just what exactly constitutes a learning disability. Reynolds (1984-1985) uses the federal definition under P.L. 94-142, which states that a determination of LD:

> is made based on (1) whether a child does not achieve commensurate with his or her age and ability when provided with appropriate educational experiences, and (2) whether the child has a severe discrepancy between achievement and intellectual ability in one or more of seven areas relating to communication skills and mathematical abilities.
>
> These concepts are to be interpreted on a case by case basis by the qualified evaluation team members. The team must decide that the discrepancy is not primarily the result of (1) visual, hearing, or motor handicaps; (2) mental retardation; (3) emotional disturbance; or (4) environmental, cultural, or economic disadvantage (Federal Register, 1977, 42, p. 65082).

Reynolds sees the most critical component of this definition in the establishment of a severe discrepancy between aptitude and achievement, a term he says is vaguely defined. When the rules and regulations for P.L. 94-142 were being developed, many experts testified before the committees in the Office of Education hearings. The only consensus they could reach was that there had to be a major difference between what the students should be expected to do, and what they were actually achieving.

Since no federal criteria were offered, several states have implemented their own criteria with a resulting great diversity. Thus there continues to be a great deal of subjectivity in diagnosis and categorizing. Most criteria do, however, have an exclusionary clause and do not allow children with IQs in the lower ranges to be considered, as an example below an IQ of 85. One of the most frequently used IQ tests is the WISC-R, which has a standard deviation of 15, thereby excluding students who score more than one SD below the mean on the full performance score (Reynolds, 1984-1985).

Yet another definition is given for P.L. 94-142 which varies slightly from the Federal Register:

> The term 'children' with specific learning disabilities means those children who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional

> disturbance, or environmental, cultural, or economic disadvantage (Hammill et al., 1987).

Another major issue centers around this definition. A position paper by the National Joint Committee on Learning Disabilities (NJCLD) refers to four major problem areas: (1) The current definition has been frequently misinterpreted. (2) The use of "children" in the current definition limits the applicability of the term "learning disabilities." (3) The etiology of learning disabilities is not stated clearly within the current definition but is implied by a listing of terms and disorders. (4) The wording of the "exclusion clause" in the current definition of learning disabilities lends itself to misinterpretation that individuals cannot be multihandicapped or be from different cultural backgrounds (NJCLD, 1987).

Besides the wording of definitions, other controversies have been generated by the existing program and funding structures (Hagarty and Abramson, 1987). Efforts to change special education from the present per-child allocation method have generally been opposed by the special education establishment and advocacy groups. These groups fear that any new system of allocation could jeopardize years of efforts spent in lobbying for educational rights, financial support, procedural safeguards, and individualized services. There is an instinct to "hold the line" among parents and among the educational communities. Concern about over-identification of LD and of increased costs have generated regressive controls and a call for containment remedies such as child-count caps for certain categories of special education.

Hegarty cites another issue relevant to the educational change process. A significant factor in determining an effective environment is

the amount of staff interaction, the basics of collegiality. The current dichotomy of special education and regular education restricts the amount of staff interaction (Hegarty, 1987).

In addition to definitions and funding, Gallagher has cited another four major issues in the field of learning disabilities and special education: (1) There is dissatisfaction with the status quo. As he points out, nearly everyone agrees there ought to be changes. (2) Heterogeneity is a major problem. Almost all the writers mention the range and diversity of LD. (3) Treatment programs need to be differentiated. The real question is how to match effective treatment to a particular child. (4) Political factors are influencing professional decisions. The ever-present dilemma exists: If schools want the money for programming, they must identify the students and must retain them in the programs (Gallagher, 1986).

Summary

A whole spectrum of professionals including teachers, researchers, and politicians are dissatisfied with the status quo in special education. Professionals can't seem to agree on how to categorize students, or even if they should categorize. Closely related to this issue is the difficulty in defining a severe discrepancy. Mainstreaming is difficult to define. The efficacy of special education programs is being questioned. Lack of federal and state consistency contributes to the problem rather than the solution. Definitions and categories even vary from state to state. The dichotomy of special and regular education may be contributing to the problems of mainstreaming.

CHAPTER III. METHODOLOGY/PROCEDURES

Design of the Study

This study was designed to be a longitudinal examination of retention and recidivism of students in LD programs. The purposes are as follows: (1) to determine if students in higher grade levels have been in LD programs longer than those in lower grade levels; (2) to determine the rate of LD student recidivism; (3) to determine how long students who enter an LD program are retained in the program; (4) to determine the number of deficit area changes; (5) to determine if there is a difference by gender in the number of years in an LD program; (6) to determine if the LD student school dropout rate is different from the general student population, grades 7-12. This chapter describes the procedures and methods used to accomplish these purposes.

Description of the Population

Public school students in grades K-12 in 11 North Central Iowa communities were the subjects. The area is rural with small towns and a fairly homogeneous racial population.

Sampling Procedure

School districts within a radius of 60 miles were contacted to determine if the school administration and the learning disabilities teachers would be willing to participate in the study. The school districts contributing data to the study included Algona, Armstrong, Britt, Burt, Luverne, Mason City, Pocohontas, Sentral (Fenton), Spencer, Titonka, and West Bend.

Data Gathering Instruments

The essence of the study was the need for LD teachers in each district to carefully go through each of the LD student's records and extract the longitudinal data required. Data were sought through the use of a written survey instrument completed for each individual LD student and containing 18 questions, plus a chart depicting 10 years vertically and 16 discrete items horizontally (see Appendix). The potential number then was 178 items on which the teacher needed to make a decision. Experience showed that each survey form required approximately 5 minutes. This meant that each teacher spent from 50 to 90 minutes completing the data. The response from most teachers was enthusiastic and positive; some annotated the margins with information beyond what was requested.

The survey forms were mailed out to the 12 volunteer school districts on May 15, 1987, and all but one district were returned by June 1, 1987. Two hundred and fifty survey forms were mailed out and 213 were returned. Of these, 204 forms were usable.

Data Treatment Analysis

In those cases where it was of practical significance, results were treated with inferential tests. In other cases, the data are descriptive, and are used for comparison and discussion. Each hypothesis is treated in Chapter IV.

Summary

Because the data used in this study required approximately an hour for each respondent, volunteers were used. The use of 11 schools across

several counties does constitute a good sampling of students' records. The response was over 200 out of the original 250 requested. Data treatment was completed through the use of the Iowa State University Computation Center.

CHAPTER IV. FINDINGS

This study was designed to determine the extent to which Learning Disability (LD) programs remediate student academic skills deficits, and are able to help LD students achieve independently in the regular classroom. The study also examined related factors such as the pattern of deficits to see if the starting age, grade level, or gender of LD students was related to the length of time they were retained in the LD program. Other related factors related to retention and recidivism are discussed, such as size of school district, minutes per day in the LD room (MPD), and IQ. To learn if the LD student dropout rate was higher than the non-LD student population, the dropout rates of LD students were also compared to that of non-LD students. Additional information on the identification of LD students was gathered to determine which tests were used to measure IQ and academic deficits. Eleven teachers in 11 Iowa schools contributed data for 204 students for the school years of 1977-78 through 1986-87.

This chapter is organized into two sections, Descriptive Data and Inferential Data. In section one, a descriptive summary is presented. In section two, a summary of each inferential test is given with the appropriate table referenced.

Descriptive Data

Sample

Three Area Education Agencies (AEAs) which included 11 school districts participated in the study: Northern Trails, 20 students (9.8%); Lakeland, 162 students (79.4%); and Arrowhead, 22 students (10.8%). The

total number of student records used in the study was 204. The 11 participating school districts ranged in number of students from a low of three at Britt to a high of 46 at Spencer.

Student demographics

Table 2 shows that current grade levels of LD students ranged from 1-12 with 155 (76.0%) in 6th to 12th grade inclusive. The proportion by gender in this study was 138 males (67.6%) and 66 females (32.4%). Predictably, 192 (94.1%) of these students were currently being served in LD or multicategorical (MC) programs.

Table 2. Student grade levels

Student grade level	Number of students	Percent	Cum. percent
1	4	2.0	2.0
2	4	2.0	3.9
3	9	4.4	8.3
4	17	8.3	16.7
5	15	7.4	24.0
6	28	13.7	37.7
7	16	7.8	45.6
8	24	11.8	57.4
9	24	11.8	69.1
10	19	9.3	78.4
11	27	13.2	91.7
12	17	8.3	100.0
Total	204	100.0	

Identification measures (tests)

It may be helpful to know how the students in the sample were tested in the initial identification phase. School respondents were asked to show which IQ tests were used in the initial identification procedures. The survey responses indicated that the WISC-R (Wechsler Intelligence Scale-Revised) was used to measure the IQ of 159 or 93% (92.98) of the students. The next most frequently used IQ test was the Stanford-Binet, which was used six times or 3.50%. No other IQ test was reported more than once. Of the 204 possible, 171 reported the test used, and 33 were missing. Missing data include some psychological reports which were written in terms such as "average" or "low average."

The range of IQ scores reported was from a low of 73 to a high of 138 on the full performance score. The mean IQ for the 170 reported cases was 98 with a median of 97 given.

Minutes per day in program (MPD)

Minutes per day is the length of time an LD student spends in the LD or multicategorical (MC) resource room receiving help in his or her identified skills deficit area(s). Table 3 shows that the range of MPD reported was from a low of 10 minutes to a high of 390 minutes, or 6.5 hours. The upper limit of 6.5 hours reflects total resource room scheduling for one student. There were only five reported cases of students being scheduled more than 3 hours per day in the resource room; more than 3 hours should be labeled self-contained, rather than resource.

The mean time spent in the resource room each day for the 194 reported cases was one hour (59.479 minutes), with a median of 45 minutes;

however, the mean is distorted by the five students reporting over 3 hours per day. The 10 minutes may reflect the student who is scheduled once each week for 50 minutes. A range of 30 to 50 minutes per day accounted for 140 cases, or over 70% of those reporting.

Table 3. Minutes per day in LD program

Minutes	Number of students	Percent	Cum. percent
10	1	.5	.5
15	1	.5	1.0
20	2	1.0	2.1
25	2	1.0	3.1
30	32	16.5	19.6
40	33	17.0	36.6
45	34	17.5	54.1
47	5	2.6	56.7
50	36	18.6	75.3
55	8	4.1	79.4
60	9	4.6	84.0
70	2	1.0	85.1
80	2	1.0	86.1
85	1	.5	86.6
90	3	1.5	88.1
94	1	.5	88.7
100	4	2.1	90.7
120	4	2.1	92.8
130	1	.5	93.3
150	1	.5	93.8
170	1	.5	94.3
180	6	3.1	97.4
200	1	.5	97.9
240	1	.5	98.5
250	1	.5	99.0
360	1	.5	99.5
390	1	.5	100.0
Total	194	100.0	100.0
Mean 59.479	Median 45.000		

Dropouts

Dropouts are those LD students who dropped out of school during 1986-87 and are still out. Of the 202 reported, there were 12 who dropped out of school during the 1986-87 school year; this constitutes 5.94% of the LD population. For the 11 districts in the study, 102 out of 5,355 non-LD students in grades 7-12 dropped out, a 1.90% rate.

Current skills deficit areas

There are seven sets of skills under which a student may be assigned for help; these sets of skills are referred to as deficit areas. Table 4 shows the number of students for whom skills deficits were recorded. It should be noted that students are often listed in more than one deficit area; hence, the number of students used for this comparison totals more than the 204 cited earlier.

Table 4. Number and percentage of students in each of the seven skills deficit areas

Skills deficit	Number of students[a]	Percent of students in skills area
1. Writing	112	54.9
2. Reading Comprehension	102	50.0
3. Reading Skills	92	45.1
4. Math Calculation	91	44.6
5. Math Reasoning	74	36.3
6. Listening	11	5.4
7. Readiness Skills	6	2.9

[a]Total will be more than 204 because of multiple skills deficit reports.

The deficit area most frequently cited as a reason for LD placement was Writing (55%), and the second most common area was Reading Comprehension (45%). The least frequent deficits were found in Readiness Skills (3%) and Listening (5%).

Number of program changes

The number of times a student's deficit area changed is important. These changes from the 203 reported cases can be seen in Table 5. Changes reflect any time a student dropped a deficit area in one or more of the seven deficit areas, using the previous year as a baseline. Of the 204 cases, 114 or 56.2% reported no change in deficit area. It should be noted that this table does not cite changes by number of years in the LD program. (Table 10 shows that 46 students (22%) had been in the program two years or less.) This is significant since a school year was used

Table 5. Number of changes reported

Changes	Number of students	Percent	Cum. percent
0	114	56.2	56.2
1	44	21.7	77.8
2	20	9.9	87.7
3	9	4.4	92.1
4	7	3.4	95.6
5	5	2.5	98.0
6	3	1.5	99.5
7	1	.5	100.0
8	0	.0	
	1	Missing	
Total	204	Total Changes 312	

as the baseline increment, no changes during the first year were reported, and subsequently, no changes would be possible to record.

Table 6 shows the total number of deficit changes and the frequency of deficit changes by the number of years students have been in an LD program. Each year a student remains in the program there is an increase in the average number of deficit changes. Between the third year and the fifth year, the rate of change nearly doubles (.49 to .95). Between the sixth and tenth years, it nearly doubles again (1.3 to 2.2).

Table 6. Deficit changes compared by years in the LD program

Years in LD program	Number of changes	Number of students
1	.043	23
2	.261	23
3	.488	41
4	.643	28
5	.952	21
6	1.286	14
7	1.182	11
8	2.267	15
9	2.125	8
10	2.211	19
Total		203

Domain shifts

Tables 7 and 8 show the direction of change in a student's program. The original seven skills areas were collapsed into four domains, clusters of related deficits. The letters R, M, W, and L are used to represent Reading, Math, Writing, and Listening domains. To read Table 7, note line 5, starting with the year 1982. One student whose deficit was in only the Writing domain (W-1) the previous year added the Reading domain. In the Math column, R-2 means that two students who were in only Reading the previous year, added Math as a deficit. Finally, in the year 1982, it can be seen that three Reading students and one Math student added Writing-Listening. The direction of deficit shifts is important to consider. Table 7 shows that most of the deficit changes (33) originated in the area of Reading; 16 came from Writing-Listening, and 10 came from Math alone. Twelve came from multiple sources as indicated. This poses questions which will be discussed in Chapter V.

Table 8 shows that indicated domains are traded instead of added. It shows that deficit areas relatively unrelated to each other were exchanged as the reasons for retaining students in LD programs. Why was the original deficit dropped? Why was the new deficit area not noticed the previous year? These are questions which will be discussed in Chapter V.

Recidivism

Recidivism describes a circumstance in which a student who was returned to the regular educated program from the LD program because the skills deficit was apparently remediated, but then failed to achieve

Table 7. Direction of domain shifts--Added area (domain)[a]

Year[b]	Reading	Math	Writing-Listening
1978			
1979		R-1	R-1
1980		R-1	R-1 R&M-1
1981		R-1	R-3
1982	W-1[c]	R-2 W-1	R-3 M-1
1983	W-3 M-2	R-1 W-1	R-3 M-1
1984		R-1 R&W-3	R-1 M-2
1985	W-2	R-2 W-2	R-2 M-2
1986	W-1 M-1	R-1 W-1 R&W-4	R-3 M-1 R&M-2
1987	W-3 M&W-1	R-1 W-1 R&W-1	R-5

[a]Domain refers to a cluster of similar skills deficits.
[b]School years 1977-78 through 1986-87.
[c]W-1=One student in the Writing domain added another domain.

Table 8. Direction of domain shifts--Traded area (domain)[a]

Year[b]	Reading	Math	Writing-Listening
1978			
1979	W-1[c]	R-1	R-1
1980	M&W-1		
1981			
1982		R-1	R-1
1983	M-1	R-1	R-1 M-1
1984			
1985			R-1 M-1
1986	M-1		R-1 M-1
1987			R-1

[a]Domain refers to a cluster of similar skills deficits.
[b]School years 1977-78 through 1986-87.
[c]W-1=One student in the Writing and Listening domain traded that domain for another.

independently in the regular classroom, and was returned to the LD program.

Table 9 shows that of the 204 reported cases, 44 (21.5%) students had been staffed out of their LD program, which means a team of educators had made a group decision to end LD services for a student. The assumption is that the student's skills deficit(s) had been remediated. Of the 44 staffed out, 12 (6%) were staffed back into a special program a second time. While not in the table, it is interesting to note that of these 12 who were staffed back into an LD program, three were subsequently staffed out a second time. There were no reported cases of a student being staffed into an LD program a third time. The range in time out of the LD program before returning was from a low of 2 months to a high of 31 months with the average being 12 months. Summer months were not included in the count.

Table 9. Time table for recidivism

Number of students staffed out	Months out of program	Number of students returning to program	Percent	Cum. percent
44	2	1	8.3	8.3
	3	2	16.7	25.0
	4	1	8.3	33.3
	9	3	25.0	58.3
	13	2	16.7	75.0
	24	1	8.3	83.3
	27	1	8.3	91.7
	31	1	8.3	100.0
Total		12	100.0	100.0
Mean 12		Median 9.000		

Length in program

Table 10 shows the number of years students have been retained in the LD program. Forty-six (22%) of the students have been in 2 years or less, while 116 (57%) have been in the LD program 4 years or less. However, 53 students (20%) have been in LD programs for 7 years or more. The average time in the program for all 204 students is 4.7 years.

Table 10. Number of years students in LD program

Years in LD program	Students	Percent	Cum. percent
1	23	11.3	11.3
2	23	11.3	22.5
3	41	20.1	42.6
4	29	14.2	56.9
5	21	10.3	67.2
6	14	6.9	74.0
7	11	5.4	79.4
8	15	7.4	86.8
9	8	3.9	90.7
10	19	9.3	100.0
Total	204	100.0	

Ages students started in LD programs

Table 11 shows the numbers of students by age at program entry. One-third of the students had entered the program by age 8. Nearly 50% of the students in the LD program were placed by age 9, and by age 12 over three-fourths of them were in the LD programs. Slightly less than one-fourth of the students entered at the secondary level, 8th grade or above.

Table 11. Ages students started in the LD programs

Age	Frequency	Percent	Cum. percent
5	1	.5	.5
6	7	3.5	4.0
7	32	16.2	20.2
8	27	13.6	33.8
9	30	15.2	49.0
10	19	9.6	58.6
11	25	12.6	71.2
12	11	5.6	76.8
13	15	7.6	84.3
14	14	7.1	91.4
15	10	5.1	96.5
16	4	2.0	98.5
17	3	1.5	100.0
	6	2.9 Missing	
Total	204	100.0	

Size of school district

School districts were grouped by size with increments of 250 students each. Table 12 shows the numbers of students in each group. It can be seen that 107 students (53%) came from the two largest school districts of over 1250 students, while 81 students (40%) came from schools of less than 501 enrollment.

Using these size increments, it was possible to compare data from several categories such as the number of years students spent in the LD programs, number of changes in deficit areas, minutes per day in a program (MPD), and the number staffed out of a program and then back in again (recidivism). Table 13 shows the variations of these categories when districts are compared. The records of 204 Iowa public school students

Table 12. Size of school districts

Size of school	Students	Percent	School district
250 or less	46	22.5	Burt, Luverne, Sentral, Titonka
251-500	35	17.1	West Bend, Pocahontas
501-750	16	7.8	Armstrong, Britt
751-1000	0	0	--
1001-1250	0	0	--
1251-1500	43	21.0	Algona
2001-2500	64	31.3	Mason City, Spencer
Total	204		

Table 13. Years in program, number of deficit area changes, minutes per day, and number of times staffed back in--compared by size of school district

Size of school[a]	Years in LD program[b]	Changes in deficit[c]	MPD[d]	Backin[e]
000-250	4.717	.422	42.714	0.000
251-500	4.771	2.000	80.294	2.000
501-750	6.313	.188	45.625	2.000
1251-1500	5.302	1.721	45.023	4.000
2001-2500	3.797	.359	75.169	4.000

[a]Total school enrollment K-12.

[b]Mean number of years in program.

[c]Mean number of deficit changes.

[d]Mean minutes per day in program.

[e]Number of times a student was staffed back in.

were used to collect the data for this study. School district student populations, K-12, included in this study ranged from a low of 147 at Luverne to a high of 2360 in Mason City. Their overall school dropout rate, grades 7-12, ranged from a reported low of zero in five districts to a high of 3.06% in Algona (James Forsythe, Iowa Department of Education). These figures are for the total 7-12 population and include the special education students.

Number of years by starting age

Table 14 shows that when students entered the program at an earlier age, they were in the LD program longer. The student who started at age 11 was in the program 1.9 years longer than the student who entered at age 15 (4.8 to 2.9).

Table 14. Number of years in LD programs for starting ages 11-15

Age entered program	Number of students	Number of years in LD programs
11	25	4.840
12	11	2.545
13	15	3.333
14	14	2.714
15	10	2.900

Table 15 summarizes important data presented earlier and may be used for reference in examining findings.

Table 15. Summary of descriptive data

Item	Measurement
Number of participating schools	11
Number of students in study	204
Grade levels included	1-12
Number of males	138
Number of females	66
Number served in LD or MC rooms	192
Number of Reading deficits	194
Number of Math deficits	165
Number of Communications deficits	123
Number of students staffed out of LD	44
Number of students staffed in twice	12
Number of LD student school dropouts	12
WISC-R, Number of students tested	159
Stanford Binet, Number of students tested	6
Average reported IQ	97
Average minutes per day in resource room	59.47
Most frequent minutes per day	30-50
Number of deficit area changes	312
Average age at program entry	10.151
Percentage of students with program changes	44

Inferential Data

Major purposes of this study were (1) to determine the extent to which LD programs remediate academic deficits, (2) to determine how long students are retained in LD programs, and (3) to determine the rate of LD recidivism. Following are the six hypotheses.

Hypothesis 1: There is no significant difference between an LD student's current grade level and the total number of years that student has spent in an LD program.

Hypothesis 2: There is no significant relationship between a student's age when starting in an LD program and the total number of years that student is in an LD program.

Hypothesis 3: There is no significant difference in the total number of years in an LD program for male and female students.

Hypothesis 4: There is no significant difference in the average number of deficit area changes per student for male and female students.

Hypothesis 5: There is no significant difference between the school dropout rate for LD students and the dropout rate for other students in the total school population.

Hypothesis 6: The rate of students who leave an LD program, to work without resource assistance, and then return (recidivism) is not significantly greater than 10 percent.

Six hypotheses were stated in the null form. The first two were tested using the ANOVA. Hypotheses 3 and 4 were tested using T-tests. Hypotheses 5 and 6 were tested for proportion. The level of significance was set at .05. Below are the results for each hypothesis tested.

Hypothesis 1: There is no significant relationship between a student's current grade level and the average number of years that student has spent in an LD program.

This hypothesis was designed to determine if students tend to be staffed into LD programs and remain there for extended periods of time. To determine this, it was necessary to examine the relationship between

grade level and the number of years in the program. Table 16 shows the average number of years in the LD program and the grade level. Since the students could have entered in kindergarten, it was instructive to examine the length of time that students now in grades 6-12 have been in the LD program. First, the average student was in the LD program for 5.3 years, and there were significant differences between the groups. Students in grade 6, for example, averaged 4.2 years in the program while students in grade 12 were in the program an average of 7.8 years. Years in the program, however, did not progress incrementally by grade as one might expect. For example, LD students in grade 9 had more years in the LD program (6.3) than did LD students in grades 10 and 11 (4.9 and 5.4) and grades 6, (4.2), 7 (4.4) and 8 (4.5) were not significantly different. Grades 6, 7, and 8 were different from grade 9 as one might

Table 16. Number of years in the LD program based on grade level

Grade level	Number	Mean years in program	S.D.	F ratio
Grade 6	28	4.1786	1.8867	4.8378**
Grade 7	16	4.3750	2.4461	
Grade 8	24	4.4583	2.1260	
Grade 9	24	6.2917	3.0713	
Grade 10	19	4.9474	2.9528	
Grade 11	27	5.4444	2.9264	
Grade 12	17	7.7647	2.6346	
Total	155	5.2774	2.7834	

**Significant at the .01 level.

expect, but then grade 10 fell to a level not much higher than grades 6, 7, and 8. The large difference between the averages in grades 9 and 10 may be explained by the 1981 change in the Iowa definition of LD which reduced LD enrollment the following year. Grade 11 showed a rise in the average years, but was not statistically significant from other grades. Grade 12 had the highest average and was significantly larger than all grades except grade 9. In essence, the data did not show progressive, incremental growth as expected.

While there was no consistent forward trend in the number of years a student was retained in an LD program, the null hypothesis was rejected.

Hypothesis 2: There is no significant difference between student age when starting in an LD program and the number of student years in an LD program.

This hypothesis was designed to further examine retention of students in the LD programs by considering the age of the student at entry. While the first hypothesis considered current grade level, it was hypothesized that those students who entered LD programs early (ages 7-10) would be in the program significantly longer. The ages 7-10 were selected for two basic reasons. First, there were only 8 students in the sample under age 7, not enough to generate meaningful information. Second, in looking beyond the entry age of 10, the chances for a significant difference in years in the LD program are significantly lessened because the number of remaining school years decreases. Table 17 does not show a statistically significant difference in students' average number of years in an LD program regardless of whether they entered at age 7, 8, 9, or 10. It seemed logical to assume that as students progressed in grade levels, they

would be in the program longer, but the data show that most students stay in the LD program for about 7 years. A student who entered at age 7 did stay longer (7.8 years) than a student who entered at age 10 (6.4 years), but the average number of years in the program by age did show a consistent, incremental growth. The mean number of years in Table 17 differs from Table 16 because a subgroup of students was used to compute the average. There was no statistically significant difference, and the null was not rejected.

Table 17. Number of years in the LD program based on starting age

Starting age	Number of students	Years in LD program	S.D.	F ratio
7	22	7.7727	1.7710	1.6601
8	17	7.7647	2.1074	
9	18	6.6667	2.9104	
10	14	6.4286	2.3110	
Total	71	7.2254	2.3188	

Hypothesis 3: There is no significant relationship between gender and the total number of years in an LD program.

This hypothesis was designed to determine if there was a difference in the number of years female and male students are in LD programs. Table 18 shows the average number of years in the LD programs for male (4.8) and female (4.4) students. The probability of difference was .249, indicating that there was greater than a 25 percent chance that the difference observed was merely by chance. Gender did not make a difference. The null hypothesis was not rejected.

Table 18. Number of years in LD program--compared by gender

Gender	Number of students	Mean number of years in LD program	S.D.	Pooled T	Prob.
Male	137	4.8406	2.890	1.16	0.249
Female	66	4.3636	2.447		
Total	203	4.6021			

Hypothesis 4: There is no significant relationship between genders in the average number of deficit changes per student.

This hypothesis was formulated to determine if females had more or fewer skills deficit area changes. The data in Table 19 show that males averaged 0.91 changes, and the females averaged 0.98 changes. There was no significant difference at the .05 level. There is a 73 percent possibility that the difference occurred by chance. Gender is not a factor in the number of deficit area changes for the LD student. The null was not rejected.

Table 19. Number of times the deficit area changed--compared by gender

Gender	Number of students	Mean number of deficit changes	S.D.	Separate T	Prob.
Male	137	0.9051	1.339	-0.34	0.734
Female	66	0.9848	1.659		
Total	203	0.9449			

Hypothesis 5: There is no significant difference between the current school dropout rate for LD students and the school dropout rate for the total school population.

This hypothesis was designed to determine if there was a greater incidence of school dropouts among the LD students for the current year than among the non-LD students for the same year. Table 20 shows that the dropout rate for LD students far exceeds the rate for non-LD students. The current year school dropout rate was 0.0190% for the non-LD population in grades 7-12 compared to 0.0594% for LD students. One hundred two students out of 5,355 dropped out of school during the 1986-1987 school year, compared to 12 out of 202 of the LD students. In this case, Z = 4.208, which was significant at the .01 level; thus, the percentage of LD current year dropouts was significantly greater than that of the general school population for the same period. The null hypothesis was rejected.

Table 20. LD current year school dropout rate compared with the dropout rate for all students grades 7-12

Ha = $p > .0190$		
Ho = $p \leq .0190$		
$\alpha = .05$		
Sample = .0594		
Z = 4.208**		
LD dropout rate	= .0594	N = 202
Regular dropout rate	= .0190	N = 5,355

**Significant at the .01 level.

Hypothesis 6: The rate of LD students who leave an LD program to work without resource room assistance, and then return to the LD program (recidivism) is not significantly above program aims of 10 percent.

This hypothesis was designed to determine to what extent LD programs remediate. Discussions with educators placed the desired program goals at more than a 90% success rate for students who return to the regular classes without resource room assistance. Table 21 shows that the proportion of LD students who fail to function independently when they return to their regular classes is significantly greater than program aims. In other words, the number of students who leave the LD program do not achieve independently in the regular classroom, and return to an LD program should not exceed one in ten. The purpose of this hypothesis was to determine if LD programs were successful in returning students who are able to function independently in the regular classroom. Of these, 12 (27%) were not able to function independently and were staffed back into LD programs. The proportion found in this sample was .27. In this case, $Z = 2.3306$. Thus, the rate of recidivism was significantly greater than 1 in 10. The null hypothesis was rejected.

Table 21. The rate of recidivism for LD students compared to the target rate

$Ha = p > .10$
$Ho = p \leq .10$
$\alpha = .05$
Sample = .2727
Z = 2.3306**
Recidivism target rate = less than .10
Recidivism actual rate = .2727
N = 44

**Significant at the .01 level.

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The major purposes of this study were (1) to determine how long students are retained in Learning Disability (LD) programs, (2) to determine the rate of LD recidivism, and (3) to determine the extent to which LD programs remediate. In this chapter, the conclusions of the study based on an analysis of the data are reported and recommendations for practice and further research are submitted. The chapter has been organized as follows: (1) Summary and Conclusions, (2) Recommendations for Practice, and (3) Recommendations for Further Research.

Summary and Conclusions

The study yielded several important findings. Below are those most important. Findings 1, 2, and 3 deal with retention; 4 with recidivism; 5, 6, and 7 with deficit shifts; and 8 with dropouts.

1. Once a student was placed in an LD program, he or she remained there for most of his or her school years.

2. In the smallest school districts, students were not staffed out of LD programs.

3. There was no difference in the number of years male and female students were retained in LD programs.

4. The percent of recidivism in LD programs was higher than appears desirable.

5. Approximately half (90) of the students who remain in LD programs for several years experience deficit changes.

6. There was no difference in the number of deficit area changes

male and female students experienced.

7. The single largest category of students' skills deficits was in reading, followed by math and communications.

8. The current year dropout rate for LD students was much higher than that of the total school population.

Discussion

The discussion logically follows four main areas of the summary: retention, recidivism, deficits, and dropouts.

An examination of the extent to which students are retained in LD programs was a major part of this study. It was surprising to find that students rarely got out of the program until they were sixteen or older regardless of the age at which they were staffed in. This seems to further erode the myth that early identification is the key to early remediation. It also forces consideration of the cost effectiveness of LD programs which are theoretically designed to remediate skills.

There are several possible reasons why students are retained in LD programs. First, once in a program, there may develop a dependency, on the part of the parent, the students, and sometimes the teachers. When students are passing academic courses with help, parents and students sometimes "hang on" to such help as long as they can. Indeed, some LD teachers may foster dependency in these children in order to meet their own emotional needs. Next, the school district receives a "bonus" of nearly $2,000 for each student in an LD program, an extra .7 of the per pupil funding for each student who is receiving LD resource room

assistance. This makes it very tempting for a school district to identify and serve as many LD students as possible. Finally, if a student is staffed out of special services, that student has a much reduced opportunity to receive post-high school services in the form of money, tuition, and vocational evaluation and counseling which are available through Vocational Rehabilitation and Job Training Partnership agencies. These services are only available to students with handicaps. Parents are increasingly more aware of their special education rights. If a student has been staffed out of an LD program at the high school level, these desirable services may not be available. Thus, the parents and the student have a real incentive to continue in the LD program.

Recidivism was a second major concern of this study. The data revealed that too many students return to the LD program. It seems logical to explore the causes of recidivism. First, it is possible that some students who return to regular classes should not have returned there. Students may return to regular classes for reasons that have little to do with skill achievement. At the high school level, LD students may start to feel social stigma, and may plead with their parents to get out of the program. Another reason may be that students acquire a false sense of security by passing classes with the aid of a resource teacher. The criteria for returning to the regular classroom should be based solely on academic skill remediation. Administrative policies are needed to provide a safeguard. Several questions need to be answered here if we are to solve the high rate of recidivism. Are the students really learning academic skills in the LD program? Are the

regular education teachers modifying the curriculum to meet students' needs? Are the students victims of a self-fulfilling prophecy due to labeling?

The number of changes in deficit areas for each student was another major concern of the study. Nearly half the students had deficit area change. While there may be differing opinions on the desirability of deficit changes, we need to ask if changes in programs are legitimate, or merely ways to keep students in the LD programs. We need to explore these deficit changes. Why are they occurring? Is the original deficit area really remediated? The observed number of changes is not desirable. These are questions which are not answered in this study. There should be concern and inquiry regarding this phenomenon.

Another focus of the study was the school dropout rate for LD students. The LD rate of nearly 6% was much higher than the approximate 2% for the rest of the 7-12 population and was extremely distressing. This high dropout rate is intolerable and inexplicable. In fairness, however, the dropout rate should be retested against a similar population. A good comparison group would be those LD students who were identified but not served. Why are these LD students dropping out? Is it social stigma attached to the resource room? Are the causes related to repeated academic failure and frustration? Is it because of a lowered self-concept and not academic skills?

Recommendations for Practice

There appear to be several possibilities educators need to consider in improving LD programs. One that is gaining momentum is to abolish the

resource room model and return the LD students to the regular classrooms. However, realistically considering PL 94-142 and the rights of children and parents, it may be more practical to consider the following.

1. Teachers and school administrators should be made aware of the general problem area in the length of time students are retained in LD programs and the high LD dropout rates. They should look at their own school LD programs and be required to formulate and implement corrective actions.

2. School administrators should implement a "quality control" system within their LD programs to determine the rate and directions of deficit area shifts. Each deficit shift should be personally reviewed and approved by the building administrator. A deficit shift may be compared to a student enrolling in a different class.

3. Each incident of recidivism should be examined by a "child care" team within the school district. A child care team consists of educators who review LD students' programs. Their involvement in the LD program should be that of an investigative team asking, "What went wrong?"

4. Place a limit on the number of years a student can be in a program if no significant remediation is occurring. This does not mean to give up on the student's needs; it does mean that a new approach outside the resource room should be sought--for example, peer tutoring.

5. Develop a much more precise definition of LD. Do not use national norms to make a student eligible for services; use local norms.

6. Develop better indicators for LD students. If we continue to label students LD, we must have better indicators.

7. Develop a national assessment program for special education.

Recommendations for Further Research

1. Additional research is needed to determine why some school districts have a deficit change rate which is over 10 times the rate of another district (2.000 to .188).

2. Further study is needed to determine why the average number of years spent in the LD program in one school district is 1.66 times the average in another district (6.313 to 3.797).

3. Further study should be conducted to determine why students return to LD programs a second time. This research should include causes of failure to achieve independently in the regular classroom, and not just what did or did not happen in the resource room.

4. There is a need for further longitudinal study to focus on the causes of deficit area changes. Why are so many students experiencing frequent changes? If a student is assigned for a reading problem, is it legitimate for that student to be kept in the program three years later for a writing deficit? There is a tendency for reading deficits to add, or even change into, other deficits. Are these changes being made for political, parental, or budgetary reasons?

On the practical side, we might not need any further research if we simply accept the overwhelming evidence that LD programs often cannot demonstrate sufficient positive academic benefits to justify the amount of money being spent. Perhaps we should return all LD students to the regular classrooms.

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APPENDIX

1. AEA # _____

2. School District _____

3. Circle the student's grade for the 1986-87 school year.

K 1 2 3 4 5 6 7 8 9 10 11 12

4. Circle the student's gender.

(1) Male (2) Female ____

5. Date of Birth ____/___/___
day/mon/yr

6. Initial Sp Ed Placement Date _____

7. Circle Present Program Model

(1) LD (2) BD (3) MD (4) Multi-categorical (5) Other

8. Circle Current Specific Deficit Area(s)

(1) School Readiness Skills
(2) Basic Reading Skills
(3) Reading Comprehension
(4) Mathematical Calculation
(5) Mathematical Reasoning
(6) Written Expression
(7) Listening Comprehension

9. Was the student staffed out and then back again? (circle one)

Yes = Number of months out of program? _____

No

10. Achievement level and current deficit area: (1 or more)

DEFICIT AREA	TEST USED*	GRADE LEVEL SCORE
Readiness	_____	_____
Basic Reading	_____	_____
Reading Comprehension	_____	_____
Math Calculation	_____	_____
Math Reasoning	_____	_____
Writing	_____	_____
Listening	_____	_____

11 IQ test used to qualify original placement _____

(example, WISC-R)

Verbal Score _____

Performance Score _____

Full Scale Score _____

12. Number of minutes per day in special program _____

*Possible tests might be

Woodcock	Brigance
PIAT	Key Math
WRAT	Other

	STAFFED IN/OUT									DEFICIT AREA(S)*						
School Year	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Readi-ness	Read Skills	Read Comp.	Math Calc	Math Reas.	Writ-ing	Listen-ing
77-78																
78-79																
79-80																
80-81																
81-82																
82-83																
83-84																
84-85																
85-86																
86-87																

0 = Entry into special education program

X = Exit from special education (staffed out)

D = Dropped out of school

T = Transferred to another school

* If a student drops a deficit area, but remains in the program for a different deficit, please indicate the month that the first deficit was ended by writing D (for drop) - R (reading)
M (math)
W (writing)
L (listening)
K (readiness)